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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,723	05/03/2005	Kam Choon Kwong	SG 020030	7797

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EXAMINER

LEVI, DAMEON E

ART UNIT PAPER NUMBER

2841

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/533,723

Applicant(s)

KWONG ET AL.

Examiner

Dameon E. Levi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2006 (Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perkins et al US Patent 6490173 in view of Ishikawa US Patent 4697044.

Regarding claim 1, Perkins et al discloses a device comprising a frame(element 10, Figs 1-6) provided with an outer sidewall(element 20, Figs 1-6) and leg sections(element 12, Figs 1-6) extending from said walls, and a printed circuit board (element 24, Figs 1-6)having a plurality of spaced holes (element 34, Figs 1-6), said leg sections extending through respective holes and being soldered to said printed circuit board so as to couple said frame to said printed circuit board Perkins et al does not expressly teach said printed circuit board having a part provided with at least one of said spaced holes and extending through said outer side wall. Ishikawa teaches a device assembly having a printed circuit board(elements 14, Fig 5) having a part provided with at least one of the spaced holes and extending through an outer side wall(see extension of elements 14, extending through outer sidewall 11, in vicinity of element B, Fig 5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have arranged the printed circuit board extending through the

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sidewall in the manner as taught by Ishikawa in the device assembly as taught by Perkins, for the purpose of providing a sturdy mounting arrangement once the printed circuit board and the frame are attached.

Regarding claim 2, Perkins et al discloses the instant claimed invention except wherein said outer side wall is provided with at least one cut-out part, in which said leg section is located and through which said part of said printed circuit board extends upon coupling said frame to said printed circuit board.

Ishikawa teaches a device assembly wherein an outer side wall is provided with at least one cut-out part, in which a leg section is located and through which a part of a printed circuit board extends upon coupling the frame to the printed circuit board(see cut out portions of elements 11, in vicinity of elements B and 11a, Fig 5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have arranged the cut out parts in the manner as taught by Ishikawa in the device assembly as taught by Perkins et al for the purpose of providing a sturdy mounting arrangement once the printed circuit board and the frame are attached, as well as, to allow for external connections to the printed circuit board.

Regarding claim 3, Perkins et al discloses the instant claimed invention except wherein said frame further comprises a plurality of outer side walls each provided with respective leg sections, said leg sections extending through respective holes located in respective parts of the printed circuit board, which extend through said outer side walls.

Ishikawa discloses a device assembly wherein a frame further comprises a plurality of outer side walls each provided with respective leg sections, said leg sections extending

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through respective holes located in respective parts of a printed circuit board, which extend through the outer side walls(see elements 11, in vicinity of elements B and 11a, Fig 5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the frame in the manner as taught by Ishikawa in the device assembly as taught by Perkins et al for the purpose of providing a sturdy mounting arrangement once the printed circuit board and the frame are attached, as well as, to allow for external connections to the printed circuit board.

Regarding claim 4, Perkins et al discloses the instant claimed invention except wherein said frame further comprises one or more inner walls bridging said outer side wall and provided with respective leg sections.

Ishikawa discloses a device assembly except wherein a frame further comprises one or more inner walls bridging an outer side wall and provided with respective leg sections(elements 13, 11, Fig 5).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the inner walls bridging the outer side walls in the manner as taught by Ishikawa in the device assembly as taught by Perkins et al for the purpose of providing EMI shielding for one section of the device assembly from another section.

Regarding claim 5, Perkins et al discloses wherein said printed circuit board(element 24, Figs 1-6) further comprises inner and outer parallel surfaces delimited by said outer side wall and having one or more second throughgoing holes(element 34, Figs 1-6) of

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said plurality of spaced holes, said throughgoing holes being configured to receive respective leg sections(element 12, Figs 1-6) of said frame upon coupling said frame to said printed circuit board.

Regarding claim 6, Perkins et al discloses wherein said printed circuit board extends perpendicular to the outer side wall of said frame upon coupling said frame to said printed circuit board(elements 10, 24, Figs 1-6).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa US Patent 4697044.

Regarding claim 7, Ishikawa discloses a device assembly comprising:

a frame provided with a side wall(element 11, Figs 3-6)

a printed circuit board(element 14, Figs 3-6) having a plurality of spaced peripheral extensions,

said sidewall of said frame and said peripheral extensions comprising respective formations engaging one another upon coupling said frame to said printed circuit board(see elements 14, and, elements 11, in vicinity of elements B and 11a, Fig 5).

Regarding claim 8, Ishikawa discloses wherein the formations include a plurality of

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holes and a plurality of leg sections configured to extend through the holes upon coupling said frame to said printed circuit board(see elements 13, and, extensions in elements 11, in vicinity of elements B and 11a, Fig 5).

Response to Arguments

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dameon E. Levi whose telephone number is (571) 272-2105. The examiner can normally be reached on Mon.-Fri. (9:00 - 5:00).

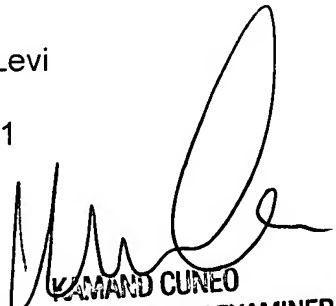
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DEL

Dameon E Levi
Examiner
Art Unit 2841



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